

# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

## Colorado State Experiment Station

Whereas, THERE HAS BEEN PRESENTED TO THE  
**Secretary of Agriculture**

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *seventeen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS SEED OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'Wings'

In Testimony Whereof, I have hereunto set  
*my hand and caused the seal of the Plant  
 Variety Protection Office to be affixed  
 at the City of Washington  
 this 11th day of August in  
 the year of our Lord one thousand nine  
 hundred and seventy-seven*

Attest:

*L. E. Rollin*  
 Commissioner  
 Plant Variety Protection Office  
 Grain Division  
 Agricultural Marketing Service

*D. B. Blyland*  
 Secretary of Agriculture

UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
GRAIN DIVISION  
HYATTSVILLE, MARYLAND 20782

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

1. VARIETY NAME OR TEMPORARY DESIGNATION <b>CO725052 Wings</b>		2. KIND NAME <b>Hard Red Winter Wheat</b>		FOR OFFICIAL USE ONLY PV NUMBER <b>7700053</b>	
3. GENUS AND SPECIES NAME <b>Triticum aestivum</b>		4. FAMILY NAME (Botanical) <b>Gramineae</b>		FILING DATE <b>3-15-77</b>	TIME <b>1:00</b>
		5. DATE OF DETERMINATION <b>September 1, 1975</b>		FEE RECEIVED <b>\$ 250.00</b>	BALANCE DUE <b>\$ 3-15-77</b>
				<b>\$ 250.00</b>	<b>\$ 4-25-77</b>
				<b>\$ 250.00</b>	<b>\$ 6-7-77</b>
6. NAME OF APPLICANT(S) <b>Colorado State Experiment Station</b>		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) <b>Colorado State University Fort Collins, Colorado 80523</b>		8. TELEPHONE AREA CODE AND NUMBER <b>(303) 491-5571</b>	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) <b>Experiment Station</b>		10. STATE OF INCORPORATION <b>-</b>		11. DATE OF INCORPORATION <b>-</b>	

12. Name and mailing address of applicant representative(s), if any, to serve in this application and receive all papers:

**Dr. J. R. Welsh  
Department of Agronomy  
Colorado State University  
Fort Collins, Colorado 80523**

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- ☒ 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)
- ☒ 13B. Exhibit B, Botanical Description of the Variety
- ☒ 13C. Exhibit C, Objective Description of the Variety
- ☒ 13D. Exhibit D, Data Indicative of Novelty
- ☒ 13E. Exhibit E, Statement of the Basis of Applicant's Ownership

14A. Does the applicant(s) specify that seed of this variety be sold by variety name only as a class of certified seed? (See Section 83(a).) (If "Yes," answer 14B and 14C below.) ☒ YES ☐ NO

14B. Does the applicant(s) specify that this variety be limited as to number of generations? ☒ YES ☐ NO

14C. If "Yes," to 14B, how many generations of production beyond breeder seed? ☒ FOUNDATION ☒ REGISTERED ☒ CERTIFIED

The applicant declares that a viable sample of basic seed of this variety will be deposited upon request before issuance of a certificate and will be replenished periodically in accordance with such regulations as may be applicable.

The undersigned applicant(s) of this sexually-reproduced novel plant variety believes that the variety is distinct, uniform, and stable as required in Section 41 and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant is informed that false representation herein can jeopardize protection and result in penalties.

**1-31-77**

(DATE)

**James R. Welsh**

(SIGNATURE OF APPLICANT)

**00001**

(SIGNATURE OF APPLICANT)

*Wings*  
Genealogy - C0725052, is a selection of the cross

II 21183/C0652363//Lancer/KS62136.

II 21183: Andes 64A/Sonora 64//Tacuari V-722-466-67

II 21183-7M-2Y-4M-1Y.

C0652363: Warrior 2/Kenya 58/Newthatch/2 (Cheyenne/Tenmark/  
Mediterranean/Hope) 3/Parker.

KS62136: Norin 16/CI 12500//Kaw.

The breeding method used was a modified pedigree system. The original cross of II 21183/C0652363 was made on June 23, 1967. The second cross with Lancer/KS62136 was made on January 10, 1968. The  $F_1$  was increased in the greenhouse in 1968 and in 1969 the  $F_2$  space planted population was grown in the field at Fort Collins. Individual plant selection was propagated into the  $F_3$  in 1970. The  $F_3$  row selected was bulked but no head selections were taken. In 1971, seed from the  $F_3$  bulked row was entered in a  $F_4$  yield trial. Head selections were made in the  $F_4$ . In 1972, the  $F_5$  head row labeled C0725052 was cut in bulk and advanced to the  $F_6$  yield nursery in 1973. Approximately 250 heads were selected to propagate breeders seed in 1974. Also in 1974, C0725052 was entered in extensive yield testing in Colorado and in the Southern Regional Performance Nursery where it was tested for two years. Approximately 200 pounds of breeders seed were produced in 1976.

#### Type and Frequency of Variance

To the best of our knowledge, under an isolated reproduction system, the cultivar has no genetic variants and is stable with respect to genetic change caused by mutations or heterozygosity.

## EXHIBIT B

<sup>Wings</sup>  
C0725052 produces seed which is small but has characteristically high test weight under a wide range of production conditions. The plant is dark green in the seedling stages and shows the effect of a dwarfing gene early in its growth stages when compared to standard height varieties. The mature plant is shorter in height compared with varieties such as Scout and Centurk although the height difference is reduced when grown under moisture stress. The flag leaf is erect and wide compared with the narrow drooping leaves of standard varieties. <sup>Wings</sup> C0725052 retains its dark green color until the onset of maturity.

7700053

FORM APPROVED 6-67

UNITED STATES DEPARTMENT OF AGRICULTURE  
 AGRICULTURAL MARKETING SERVICE  
 GRAIN DIVISION  
 HYATTSVILLE, MARYLAND 20782  
**OBJECTIVE DESCRIPTION OF VARIETY**  
 WHEAT (TRITICUM SPP.)

See Reverse,  
 Name of Applicant:

Colorado State Experiment Station

Street and No., or R.F.D. No., City, State, and ZIP Code)

c/o Dr. J. R. Welsh

Department of Agronomy

Colorado State University, Fort Collins, CO 80523

FOR OFFICIAL USE ONLY

PVPO NUMBER

7700053

VARIETY NAME OR TEMPORARY  
DESIGNATION

Wings reg 4-13-77

Indicate appropriate number that describes the varietal character of this variety in the boxes below.

Indicate in first box (e.g., 0 5 9 or 0 9 ) when number is either 99 or less or 9 or less.

1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

1 =

2 = SPRING 2 = WINTER 3 = OTHER (Specify) 2 1 = SOFT 3 = OTHER (Specify)  
2 = HARD

2 1 = WHITE 2 = RED 3 = OTHER (Specify)

NUMBER OF DAYS FROM EMERGENCE TO:

2 5 6 FIRST FLOWERING

2 6 2 LAST FLOWERING

NO. OF DAYS (See Flowering):

5 NO. OF DAYS EARLIER THAN 5 1 = ARTHUR 2 = SCOUT 3 = CHRIS

2 NO. OF DAYS LATER THAN 2 4 = LEMHI 5 = NUGAINES 6 = LEEDS

PLANT HEIGHT (From soil level to top of head):

9 4 CM. HIGH

CM. TALLER THAN 1 = ARTHUR 2 = SCOUT 3 = CHRIS

1 0 CM. SHORTER THAN 2 4 = LEMHI 5 = NUGAINES 6 = LEEDS

LEAF COLOR AT BOOTING (See reverse):

2 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTER COLOR:

1 1 = YELLOW 2 = PURPLE

GLUME:

1 1 = ABSENT 2 = PRESENT

1 Waxy bloom: 1 = ABSENT 2 = PRESENT

1 1 = ABSENT 2 = PRESENT

1 Internodes: 1 = HOLLOW 2 = SOLID

5 NO. OF NODES (Originating from node above ground)

2 5 CM. INTERNODE LENGTH BETWEEN FLAG LEAF  
AND LEAF BELOW

GLUMELESS:

1 1 = ABSENT 2 = PRESENT

1 Hairiness: 1 = ABSENT 2 = PRESENT

LEAF:

1 1 = ERECT 2 = RECURVED

1 3 = OTHER (Specify) 1 Flag leaf: 1 = NOT TWISTED 2 = TWISTED

1 1 = ABSENT 2 = PRESENT

1 Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT

1 7 CM. LEAF WIDTH (First leaf below flag leaf)

2 9 CM. LEAF LENGTH (First leaf below flag leaf)

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1. ☐ 1 = LAX 2 = DENSE

4. Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

1. Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED  
5 = BROWN 6 = BLACK 7 = OTHER (Specify):

7. CM. LENGTH 1 0 MM. WIDTH

12. GLUMES AT MATURITY:  
Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.)  
Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.) 3 = WIDE (CA. 4 mm.)

3. Sheath: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED  
shape: 4 = SQUARE 5 = ELEVATED 6 = APICULATE

3. Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR: 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN: 1 = ABSENT 2 = PRESENT

15. JOVEILE PLANT GROWTH HABIT: 2 = 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:  
1. Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL  
1. Brush: 1 = SHORT 2 = MEDIUM 3 = LONG  
4. Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN  
4 = BROWN 5 = BLACK  
3. Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify)  
6. MM. LENGTH 3 MM. WIDTH 3.5 GM. PER 100 SEEDS

17. SEED CRACKS:  
3. Width: 1 = 60% OR LESS OF KERNEL 'WINOKA'  
2 = 80% OR LESS OF KERNEL 'CHRIS'  
3 = NEARLY AS WIDE AS KERNEL 'LEMHI'  
1. Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT'  
2 = 35% OR LESS OF KERNEL 'CHRIS'  
3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASES: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)  
2. Stem rust (Races) 56, 15, 15B2, 0 LEAF RUST (Races) 0 STRIPE RUST (Races) 0 LOOSE SMUT  
151, 11-32-113, 17 0 POWDERY MILDEW 1 BUNT 0 OTHER (Specify)

19. INSECTS: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)  
0 SAWFLY 0 APHID (Bydv.) 0 GREEN BUG 0 CEREAL LEAF BEETLE  
OTHER (Specify) HESSIAN FLY GP A B C  
RACES: D E F G

20. WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Lindon	Seed size	Lindon
Leaf size	Lindon	Seed shape	Lindon
Leaf color	Lindon	Coleoptile elongation	Lindon
Leaf curvature	Lindon	Seedling pigmentation	Lindon

## INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

(a) L. B. Bringle and L. P. Reitz, 1963, Classification of Triticum Species and Their Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.

(b) J. L. Ward, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the Handbook of Wheat Varieties.

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EXHIBIT D

<sup>Wings</sup>  
G0725052 has been selected on performance data. It has an excellent yield level and outstanding test weight. Data are presented in Tables 1, 2 and 3 to support this evaluation. Lindon is the most similar variety. All morphological traits except the length of the acuminate beak are exactly the same as those for Lindon. The distinguishing characteristic is the length of the beak. In Lindon this length is 4.0 cm. In <sup>Wings</sup>G0725052 the beak length is 8.0 cm.

## EXHIBIT D

7700053

Table 1. Dryland Performance Data Comparing <sup>Wings</sup> C0725052 with Lindon and Scout 66 for 1973-75 (18 location years).

	<u>Yield (Bu/A)</u>	<u>T.W. (Lbs/bu)</u>
Lindon	39.5	60.5
Scout 66	35.3	59.5
<del>C0725052</del> <sup>Wings</sup>	39.4	60.2

Table 2. Performance Data Comparing C0725052 with Lindon and Scout 66 in the Southern Regional Performance Nursery for 1974-75 (44 location years).

	<u>Yield (Kg/Ha)</u>
Lindon	3204
Scout 66	2976
<del>C0725052</del> <sup>Wings</sup>	3393

Table 3. Colorado Irrigated Performance and Agronomic Data, 1973-76 (8 location years).

	<u>Yield (Bu/A)</u>	<u>Height (In)</u>	<u>Stem Rust (%)</u>	<u>Lodge<sup>1/</sup></u>
Lindon	72.0	44	40	3
Centurk	73.5	49	10	8
<del>C0725052</del> <sup>Wings</sup>	75.2	45	50	2

<sup>1/</sup> 1 = erect, 9 = flat

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EXHIBIT E

The applicant is the true owner of this variety and is the employer of the breeder.

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APPLICATION NO. [REDACTED]

7700053

VARIETY NAME [REDACTED]C0725052 *Wings*

Dr. James R. Welsh  
Department of Agronomy  
Colorado State University  
Fort Collins, Colorado 80523

Test Results Based on the American Association of Cereal Chemists  
Approved Method (AACC)

## 1. Straight dough development time ratio:

Faxino graph \_\_\_\_\_  
Dough-mixer \_\_\_\_\_

Baking Ingredients	Arrival time-- minutes	Peak time	Stability-- minutes	Curve center height B.U.	Height at end B.U.
Yeast					
No rest					
4 hr. rest					

3. Protein percentage 11.5

This is the wheat protein content reported by the USDA Grain Quality Laboratory, U.S. Grain Marketing Research Center, Manhattan, Kansas for the composite of the 1975 Colorado winter wheat variety test.

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Table 1. Chemical, Milling, and Baking Data for the Colorado Variety Test Composites of Hard Winter Wheat Varieties Harvested at Ten Locations in 1975. 1/

Variety	C.I. or Sel. No.	Wheat 2/				Bread-baking Data 2/									
		Wt. Per Bu. lbs.	Ash %	Pro- tein %	Flour Yield %	Flour 2/		Ab- sorp- tion %	Mixing Time 3/			Loaf Volume			
						Ash %	Pro- tein %		As Rec'd min.	Cor- rect- ed To min.	Crumb To Grain	As Rec'd	rect- ed To		
														cc.	11.0% P
Wichita	11952	61.9	1.67	12.5	75.3	.45	11.8	60.8	2 $\frac{3}{8}$	2 $\frac{3}{8}$	Q-S	893	840		
Warrior	13190	61.1	1.58	11.5	74.1	.43	10.6	62.5	5	4 $\frac{1}{8}$	S	875	905		
Scout	13546	61.3	1.56	11.7	74.1	.43	10.8	63.7	4 $\frac{3}{8}$	3 $\frac{3}{4}$	S	833	847		
Lancer	13547	61.4	1.57	11.9	75.8	.45	10.7	63.0	4 $\frac{1}{2}$	3 $\frac{3}{4}$	S	868	890		
Scout 66	13996	61.3	1.51	12.1	74.5	.43	11.1	63.2	4 $\frac{5}{8}$	4 $\frac{1}{8}$	S	843	836		
Trapper	13999	61.0	1.57	11.9	75.2	.47	10.9	65.6	7 $\frac{1}{2}$	6 $\frac{1}{2}$	Q S	905	913		
Eagle	15068	61.7	1.54	12.3	75.1	.45	11.5	66.3	7 $\frac{5}{8}$	7 $\frac{1}{2}$	Q S	918	882		
Centurk	15075	61.2	1.50	11.7	73.2	.43	10.5	64.8	7 $\frac{1}{8}$	5 $\frac{7}{8}$	Q S	850	886		
Tam 101	15324	61.5	1.65	12.9	73.2	.45	11.8	63.0	3 $\frac{5}{8}$	3 $\frac{1}{2}$	S	933	875		
Baca	15891	61.2	1.50	11.6	73.3	.40	10.6	65.4	5 $\frac{5}{8}$	4 $\frac{3}{8}$	S	845	873		
Hl Plains	17262	61.3	1.63	11.7	74.5	.47	10.7	63.4	5 $\frac{3}{8}$	4 $\frac{1}{2}$	S	904	927		
Buckskin	17263	60.9	1.49	12.0	71.4	.42	10.8	66.4	8 $\frac{1}{2}$	7 $\frac{1}{2}$	Q S	908	924		
Sentinel	17265	60.3	1.59	12.3	73.1	.44	11.5	66.8	5 $\frac{7}{8}$	5 $\frac{1}{2}$	S	898	863		
Cloud	17276	61.2	1.52	11.7	75.1	.44	10.7	63.1	4 $\frac{1}{8}$	3 $\frac{1}{2}$	S	881	904		
Sage	17277	61.0	1.55	12.0	73.5	.41	11.0	63.8	5	4 $\frac{3}{8}$	S	857	857		

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Table 1. (cont.), page 2

Variety	C.I. or Sel. No.	Wheat <sup>2/</sup>		Flour <sup>2/</sup>		Ab-		Mixing Time <sup>3/</sup>		Loaf Volume	
		Wt.	Pro-	Flour	Pro-	sorp-	tion	As	Cor-	As	Cor-
		Per	tein	Yield	tein	tion	tion	Rec'd	rect-	Rec'd	rect-
		Bu. lbs.	%	%	%	%	%	To min.	ed To min.	ed To cc.	ed To cc.
Trison	17278	62.0	1.56	12.7	75.1	.43	12.1	3½	12.0% P	943	11.0% P
FN7173	17350	62.0	1.65	12.4	72.8	.42	11.2	6 ⅜	-	895	880
Lancota	17389	61.7	1.49	12.1	74.2	.40	11.3	4½	6 Q	940	917
Vona	61.9	1.49	10.8	74.2	4/	.40	9.8	5½	4	838	928 5/
C0725052 'Wings'	62.3	1.51	11.5	74.6	4/	.38	10.3	5	4	888	942 5/
Lindon	62.7	1.59	11.9	73.2	4/	.37	11.0	5½	4½	910	910 5/
C0725061	62.5	1.49	10.5	72.7	4/	.35	9.2	5½	3½	803	937 5/
C0725082	62.5	1.54	10.9	73.4	4/	.38	9.6	8 ¼	5 ⅞ Q	800	899

1/ Chemical data expressed on a 14% moisture basis.

2/ S, Q, and U - Satisfactory, questionable, and unsatisfactory quality with respect to property in question. A satisfactory rating is inferred in the absence of a designated one. One unsatisfactory rating, in general, characterizes a variety as undesirable for hard wheat milling and breadmaking purposes. Crumb colors were satisfactory for all entries.

3/ Mixing time used in baking is evaluated in conjunction with other mixing properties obtained from the 10-g. mixogram.

4/ Softer than average hard wheat milling properties but entirely satisfactory.

5/ Promising overall quality characteristics.

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Fig. 1. Mixograms (10-g.) for the Colorado variety test composites of hard winter wheat varieties harvested at ten locations in 1975.

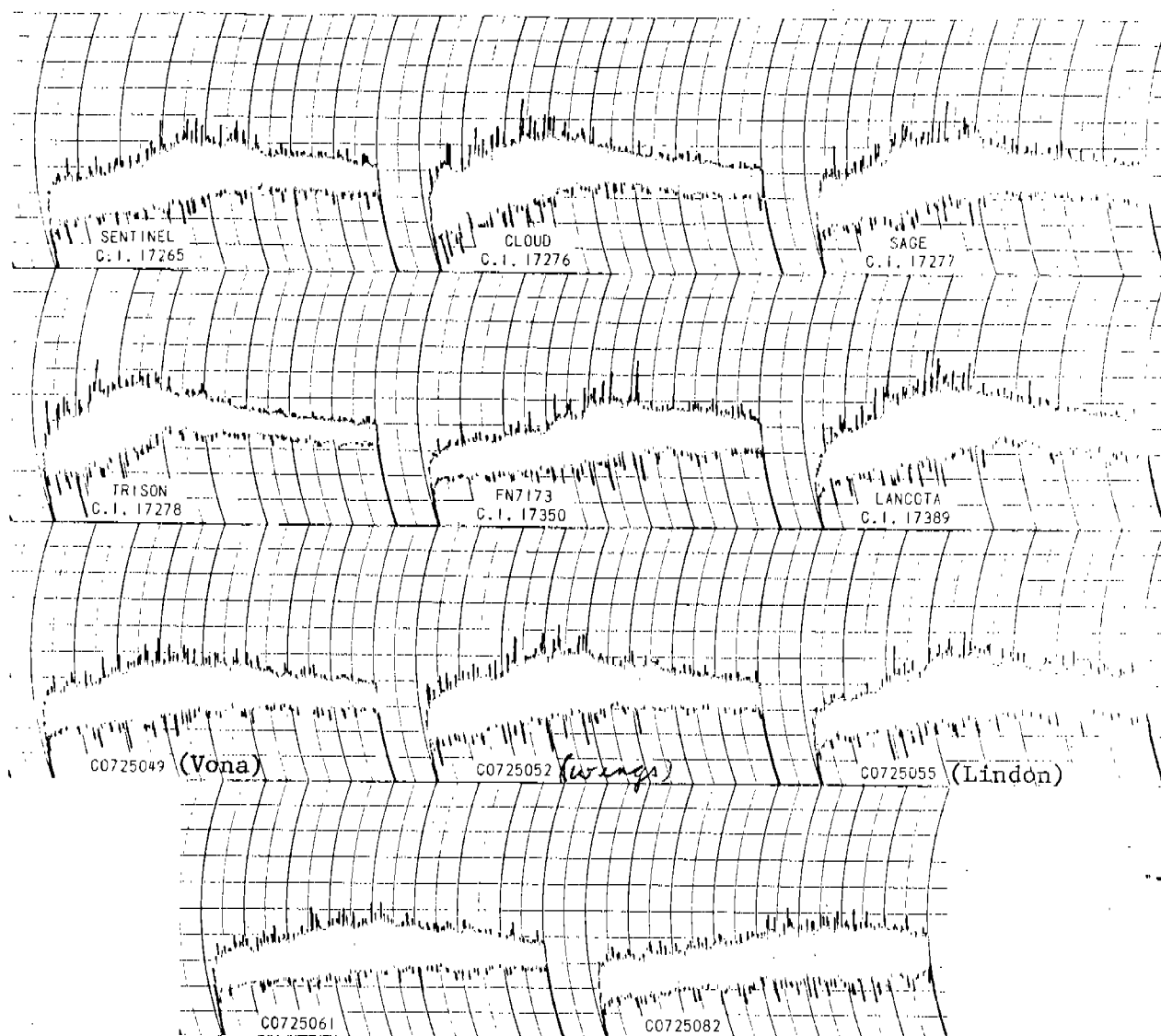


Fig. 2. Mixograms (10-g.) for the Colorado variety test composites of hard winter wheat varieties harvested at ten locations in 1975.



College of Agricultural Sciences  
Office of the Dean  
303/491-6274

Colorado State University  
Fort Collins, Colorado  
80523

March 10, 1978

Mr. Kenneth H. Evans  
Examiner, Plant Variety Protection Office  
USDA - Agricultural Marketing Service  
National Agricultural Library Building  
Beltsville, Maryland 20705

Dear Mr. Evans:

An error was inadvertently made in previous correspondence of March 1, 1978 regarding the hard red winter wheat variety "Wings" (certificate No. 7700053).

The correct statement is that title and ownership of "Wings" has been transferred along with exclusive marketing rights to North American Plant Breeders, P. O. Box 2955, 5201 Johnston Drive, Mission Kansas. Colorado State University was the sole owner and developer of this variety. This statement replaces that of previous correspondence.

Thank you for your assistance.

Sincerely yours,

Donal D. Johnson  
Dean of Agricultural Sciences

br

cc Giles E. Dixon

State of Colorado )  
County of Larimer ) s.s.

Witness my hand and official seal at Fort Collins, Colorado,  
this 10th day of March, 1978.

Notary Public

My Commission Expires August 7, 1981

BILL OF SALE AND ASSIGNMENT

KNOW ALL MEN BY THESE PRESENTS that AGRIPRO BIOSCIENCES INC., a Delaware corporation (hereinafter referred to as "Seller"), pursuant to that certain Asset Purchase Agreement of even date herewith by and between Seller and AGR ACQUISITION CORPORATION, a Delaware corporation (hereinafter referred to as "Buyer") and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, does hereby grant, bargain, sell, assign, convey and deliver unto Buyer, all of Seller's right, title and interest in and to the plant varieties owned/registered by Seller and more particularly set forth on Exhibit A attached hereto for which PVP Certificates have been issued by or may be pending before the U. S. Department of Agriculture.

TO HAVE AND TO HOLD UNTO PURCHASER, its successors and assigns forever.

IN WITNESS WHEREOF, Seller has executed this Bill of Sale and Assignment as of the 30th day of June, 1994.

AGRIPRO BIOSCIENCES INC.

BY: W.A. Zama  
Title: President

STATE OF KANSAS, COUNTY OF JOHNSON

Before me, the undersigned, a Notary Public of the State and County aforesaid, personally appeared W. A. ZAMA with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence) and who, upon oath, acknowledged himself to be the PRESIDENT of Agripro Biosciences Inc., the within named bargainor, a corporation, and that he as such PRESIDENT, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself as PRESIDENT.

WITNESS my hand and Notarial Seal at office the day and year above written.

Alma M. Weaver  
Notary Public

My Commission Expires:

June 22, 1998

ALMA M. WEAVER  
NOTARY PUBLIC  
STATE OF KANSAS

My Appt. Exp. June 22, 1998



## LAW OFFICES

LUCIUS E. BURCH, JR.  
W. J. MICHAEL CODY  
JOEL PORTER  
CHARLES F. NEWMAN  
C. THOMAS CATES  
JOE M. DUNCAN  
JOHN A. STEINLER  
J. BROOKE LATHRAM  
JEFF BELMAN  
DEWITT H. SHY, JR.  
R. MICHAEL POTTER  
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DAVID J. HARRIS  
WARNER B. RODDA  
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HOLLY K. LILLARD  
SAM L. GRAIN, JR.  
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BETH WEEMS BRADLEY  
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RICKY E. WILKINS  
TODD A. ROSE  
REVA H. KRIEGLER  
SUSAN CLARA TAYLOR  
DOUGLAS F. HALIJAN  
JOHN W. CAMPBELL  
R. PORTER FEILD

BURCH, PORTER & JOHNSON  
130 NORTH COURT AVENUE  
MEMPHIS, TENNESSEE 38103

TELEPHONE 901-523-2311  
TELECOPIER 901-523-7140

July 25, 1994

CHAS. N. BURCH 1888-1938  
H. D. MINOR 1868-1947  
CLINTON H. MCKAY 1888-1943  
JESSE E. JOHNSON, JR. 1912-1980  
JOHN S. PORTER 1898-1980

MORGAN KEEGAN OFFICE  
50 NORTH FRONT STREET  
SUITE 650  
MEMPHIS, TENNESSEE 38103  
TELEPHONE 901-527-2311  
TELECOPIER 901-527-4199

Ms. Ann Zempolich  
Plant Variety Protection Office  
U. S. Department of Agriculture  
500 NAL Building  
10301 Baltimore Boulevard  
Beltsville, MD 20705

Re: Agripro Biosciences Inc. Sale of PVPs to AGR Acquisition Corporation (which has changed its name to Agripro Seeds, Inc.)

Dear Ms. Zempolich:

I am enclosing herewith the Bill of Sale and Assignment wherein Agripro Biosciences Inc. has sold and assigned all of its right, title and interest in and to the PVPs listed on the attachment to the Bill of Sale to AGR Acquisition Corporation and hereby request that your records be changed to show the new owner as Agripro Seeds, Inc., the new name of AGR Acquisition Corporation. It is our understanding that the attachment was generated by someone in your office and forwarded to Agripro Biosciences Inc. at its request, and was subsequently forwarded to our office as attorneys for the purchaser in connection with the sale transaction.

As I indicated to you in our several previous telephone conversations, AGR Acquisition Corporation changed its corporate name to Agripro Seeds, Inc. the same date as the closing of the sale. I am enclosing herewith a copy of the Certificate of Amendment filed by the Delaware Secretary of State wherein the corporate name is changed.

If I counted correctly, there are 149 PVP certificates listed on the attachment to the Bill of Sale and Assignment. I am enclosing a check in the amount of \$3,725.00 payable to United States Treasury in payment of the \$25.00 per certificate fee to change the owner's name on your records.

THIS DOCUMENT HAS A COLORED BACKGROUND - NOT A WHITE BACKGROUND

THIS DOCUMENT HAS A COLORED BACKGROUND



HELENA CHEMICAL COMPANY  
Suite 3200 - Clark Tower  
5100 Poplar Avenue  
Memphis, Tennessee 38137

DATE

CHECK NUMBER

7-8-94

22406

PROTECTION  
AMOUNT

PAY EXACTLY 3725.00

PAY THIS AMOUNT

\$3,725.00

United States Treasury

PAY TO THE  
ORDER OF

HELENA CHEMICAL COMPANY

by

*Bym Tahn*

AUTHORIZED SIGNATURES

Soil Regulatory & Testing Branch  
Rural, PM, Livestock & Food Division  
Building 508, RMC-East  
Beltsville, Maryland 20705  
(301) 345 4435

100-443887-10000

Box 121  
Rural Route 1, Box 121  
Carr Oak, Kansas 66035

# West of Dixie

We have information that on June 12, 1955, was advertised, by various times, unperfected case of the Boston and Kings variations of 1954.

Trucks and Buses are variations of the vehicle under the Motor Vehicle Registration Act. The current Motor Vehicle Registration Act for Motor Vehicle Registration indicates that the motor vehicle can be sold by anyone, even if it is not a dealer. Under Federal law, it is illegal for the Federal Government to sell or offer for sale or advertise Buses and Trucks by anyone, unless the sale is justified:

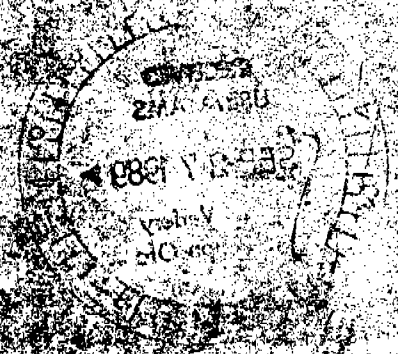
It is hereby acknowledged under Section 412 of the Federal Seed Act that in certain circumstances a suitable variety may be used instead of a standard.

In addition to complying with the Federal Seed Act, persons handling seed of any protected variety are urged to exercise care to avoid infringing rights granted under Section 111 of the Plant Variety Protection Act.

## References

Stephen J. Hurst  
Food Marketing Specialist  
Food Regulatory and Testing Branch  
Restaurant and Food Division

cc: S. Bangert (KS)  
✓ K. Evans (PVPO)  
Agipro Biosciences, Inc.  
6700 Antioch, P.O. Box 2954  
Shawnee Mission, Kansas 66201-1355





AGRIPRO BIOSCIENCES INC.

August 23, 1989

Mr. Don Diehl

Burr Oak, Ks 66936

Dear Mr. Diehl:

It has been drawn to our attention that you have been advertising Wings wheat for sale in the Aug 17th edition of The Valley Shopper.

Wings wheat is a variety protected under the Plant Variety Protection Act. Wings can be sold only by variety name as a class of certified seed. AgriPro Biosciences Inc. is the owner of the patent for AgriPro Brand Wings.

Your advertisement and assumed sales of AgriPro Brand Wings is in violation of ABI's patent rights, the Federal Seed Act and state seed laws. ABI demands that you immediately cease and desist from advertising or selling uncertified Wings. You must inform this office in writing that the illegal offer to sell has been terminated. If you do not accede to this demand, we shall promptly initiate litigation in the appropriate federal court requesting a restraining order, permanent injunction and civil damages.

If compliance is not assured within seven (7) days of the date of this correspondence, we shall proceed without further notice to you.

Sincerely,

Keith Flynn  
Intellectual Property  
Protection Manager

KF/ml

cc: Kansas State Board of Agriculture  
Kansas Crop Improvement Assoc.  
USDA - PVP Office & USDA - Seed Branch  
Bruce Rydeen  
Jack Porter  
Verle Wathen

6700 Antioch, P.O. Box 2955

Shawnee Mission, KS 66201-1355

Phone (913) 384-4940

Telex 4941051 Fax (913) 384-0208

BILL OF SALE AND ASSIGNMENT

KNOW ALL MEN BY THESE PRESENTS that AGRIPRO BIOSCIENCES INC., a Delaware corporation (hereinafter referred to as "Seller"), pursuant to that certain Asset Purchase Agreement of even date herewith by and between Seller and AGR ACQUISITION CORPORATION, a Delaware corporation (hereinafter referred to as "Buyer") and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, does hereby grant, bargain, sell, assign, convey and deliver unto Buyer, all of Seller's right, title and interest in and to the plant varieties owned/registered by Seller and more particularly set forth on Exhibit A attached hereto for which PVP Certificates have been issued by or may be pending before the U. S. Department of Agriculture.

TO HAVE AND TO HOLD UNTO PURCHASER, its successors and assigns forever.

IN WITNESS WHEREOF, Seller has executed this Bill of Sale and Assignment as of the 30th day of June, 1994.

AGRIPRO BIOSCIENCES INC.

BY: W.A. Zama  
Title: President

STATE OF KANSAS, COUNTY OF JOHNSON

Before me, the undersigned, a Notary Public of the State and County aforesaid, personally appeared W.A. ZAMA with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence) and who, upon oath, acknowledged himself to be the PRESIDENT of Agripro Biosciences Inc., the within named bargainer, a corporation, and that he as such PRESIDENT, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself as PRESIDENT.

WITNESS my hand and Notarial Seal at office the day and year above written.

Alma M. Weaver  
Notary Public

My Commission Expires:

June 22, 1998

ALMA M. WEAVER

NOTARY PUBLIC

STATE OF KANSAS

My Appt. Exp.

June 22, 1998

Office of the Secretary of State

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I, EDWARD J. FREEL, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "AGR ACQUISITION CORPORATION", CHANGING ITS NAME FROM "AGR ACQUISITION CORPORATION" TO "AGRIPRO SEEDS, INC.", FILED IN THIS OFFICE ON THE THIRTIETH DAY OF JUNE, A.D. 1994, AT 4:30 O'CLOCK P.M.

A CERTIFIED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS FOR RECORDING.



*Edward J. Freel*

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SECRETARY OF STATE  
AUTHENTICATION:

7169071

DATE:

07-01-94

2394087 8100

944121584

06/30/94 14:25 0913 384 0208

ABI SHAWNEE MSN

002/002

CERTIFICATE OF AMENDMENT  
OF  
CERTIFICATE OF INCORPORATION  
OF  
AGR ACQUISITION CORPORATION

AGR Acquisition Corporation, a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware,

DOES HEREBY CERTIFY:

FIRST: that the Board of Directors of said corporation, by the unanimous written consent of its members filed with the minutes of the Board, adopted a resolution proposing and declaring advisable the following amendment to the Certificate of Incorporation of said corporation:

RESOLVED, that the Certificate of Incorporation of this corporation be amended by changing the Article thereof numbered "ARTICLE I" so that, as amended, said Article shall be and read as follows:

"ARTICLE I

Name

The name of the corporation (hereinafter called the 'Corporation') is Agripro Seeds, Inc."

SECOND: That in lieu of a meeting and vote of stockholders, the sole shareholder of the corporation has given unanimous written consent to said amendment in accordance with the provisions of Section 228 of the General Corporation Law of the State of Delaware.

THIRD: That the aforesaid amendment was duly adopted in accordance with the applicable provisions of Sections 242 and 228 of the General Corporation Law of the State of Delaware.

FOURTH: That the capital of said corporation shall not be reduced under or by reason of said amendment.

IN WITNESS WHEREOF, said AGR Acquisition Corporation has caused this certificate to be signed by Gary T. Hancock, its President, and attested by Ann Steelman, its Secretary, this 30<sup>th</sup> day of June, 1994.

AGR ACQUISITION CORPORATION

BY: Gary T. Hancock  
Gary T. Hancock, President

ATTEST:

BY: Ann Steelman  
Ann Steelman, Secretary